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*Unclassified*  
ORDNANCE CORPS

REDSTONE ARSENAL  
HUNTSVILLE, ALA.

JWBlank/f1/2911

ORDDW-MED 471.94(5)

SUBJECT: Information on REDSTONE Missile (U)

APR 19 1955

TO: Commandant  
The Artillery School  
Fort Sill, Oklahoma

ATTN: Major Zurek  
Dept. P and NRT

1. Forwarded for your information and retention are two (2) booklets on ground handling equipment for the REDSTONE Missile.

2. The booklet is in loose leaf form in order that changes in the system may easily be substituted. Any changes will be forwarded your installation for insertion in the booklets.

FOR THE COMMANDING GENERAL:

1 Incl

1. Booklet - "Ground Handling Equipment for REDSTONE Missile" (in dup) Cpy Nr. 9 and Cpy Nr. 10

WERNHER VON BRAUN  
Assistant

R. HENS  
A. H. Hent



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GROUND HANDLING EQUIPMENT  
FOR  
REDSTONE MISSILE SYSTEM

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ORDAB-5 478.9 Subj:  
Down grading of Book-  
Let 19 MAR 1956  
Army Ballistics Missiles Agency

Date  
26 Mar 56

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PREPARED BY  
FIELD TEST OFFICE  
GUIDED MISSILE DEVELOPMENT DIVISION  
ORDNANCE MISSILE LABORATORIES  
REDSTONE ARSENAL  
HUNTSVILLE, ALABAMA

Obsn Dept Log No. 767-55

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GUNNERY LOG 2755-5

MAT LOG NO. 3213

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mtw 822


26 MAR 56

## FOREWARD

1. Guided Missile Development Division, Ordnance Missile Laboratories, Redstone Arsenal will present the REDSTONE Missile System in two (2) volumes.
  - a. Part I - REDSTONE Missile Components.
  - b. Part II - Ground Handling Equipment.
2. Since the tactical end-solution for the ground handling equipment is more advanced and most of the items can be displayed in their final tactical shape, this booklet has been prepared first. Inasmuch as the components for the missile itself, especially with respect to the guidance and control equipment, are still in R & D phase publication of Part I, "REDSTONE Missile Components" is not practical at this time.
3. Part II displays all of that equipment which is used at a launching site to fire a REDSTONE Missile. The entire volume is broken down into special groups to facilitate its use.
4. Chart I, preceding the Index, presents a breakdown of firing site equipment and lists that equipment which will be carried on specific vehicles.
5. In view of the fact that some ground equipment has not been finalized, it is impossible to illustrate each individual item of equipment. However, such equipment is described briefly in the accompanying paragraphs.
6. Items common to the service are not pictured.
7. GMDD will provide illustrations, as soon as available, for insertion in the proper space. New pages, reflecting maintenance procedures, utilization of special tools and devices, nomenclature, drawing numbers, or superseding items now listed, will be distributed as they become available.
8. Purpose of this distribution is to insure that all volumes are maintained on a current basis.

PART II  
GROUND -  
HANDLING EQUIP.

FIRING SITE

	VEHICLES and TRUCKS	TEST AND CONTROL EQUIP.	MECHANICAL EQUIPMENT	ELECTRICAL EQUIPMENT	MAINTENANCE EQUIPMENT & TOOLS	SAFETY EQUIPMENT	SPECIAL EQUIPMENT	
1								1
2	AUXILIARY TRAILER 12 TON		LAUNCHING TABLE	GENERATOR 60 KW	HAND TOOLS SET FOR ELECTRICIANS	GOGGLES & FACE SHIELDS		2
3	FIRE CONTROL TEST TRUCK		AIR SUPPLY SET	GENERATOR SET 28V-265A	HAND TOOLS SET FOR MECHANICS	ASBESTOS GLOVES		3
4		PROGRAM DEVICE TEST EQUIPMENT	HEATER EQUIPMENT 10 KW	A C DISTRIBUTION CONVENIENT OUTLETS POWER-LIGHTS	SPECIAL TOOLS FOR REDSTONE MISSLES	NATURAL RUBBER GLOVES		4
5	JOX TRANSP. TRAILER	GUIDANCE TEST EQUIPMENT	LADDER, LAUNCHER	VOLTAGE REDUCER	HIGH PRESSURE FITTINGS & TUBINGS	FLAME PROOFED CLOTHING		5
6		VOLTAGE DETECTOR	LADDER, BURNER	STANDBY BATTERIES FOR TELEPHONES				6
7	ALCOHOL TANK TRAILER	TEST SIMULATOR BOX	LADDER, REDUCER	PUBLIC ADDRESS EQUIPMENT				7
8		POWER PLANT PANEL	PLATFORM, LAUNCHER	BOOSTER CHARGER & BATTERIES TESTER				8
9	COMPRESSOR TRUCK	CONTROL PANEL	PLATFORM, INSIDE	ELECTRIC PLUG ARM ASSEMBLY				9
10		OVERALL TEST PANEL	PLATFORM, ELEVATOR	RELAY BOX				10
11	MOBILE CRANE, 25 TON	EXPLOSIVE SCREW DIAPHRAGM TEST BOX	PLATFORM, TOP	SET OF CABLING				11
12		PAYLOAD TEST EQUIPMENT	PLATFORM, FUELING					12
13	TRUCK TRACTOR, 5 TON	FIRE OPERATION BOX	PLATFORM, DEFLECTOR					13
14			LOX VENT CONDUIT					14
15	4202 TRUCK		SLIP COUPLING ARM ASSEMBLY					15
16			TAKEOFF SWITCH SUPPORT					16
17			IGNITER ALCOHOL CONTAINER					17
18			MULTIPLE COUPLING ARM ASSEMBLY					18
19			VALVE BOX					19
20	COMPONENT TRAILER							20
21			20 FOOT BOOM SECTIONS					21
22			BLOCKS & CABLES					22

GROUND HANDLING EQUIPMENT  
FOR  
REDSTONE MISSILE SYSTEM

INDEX

A. Vehicles	Page
1. Auxiliary Equipment Trailer - - - - -	1
2. Fire Control and Test Truck - - - - -	2
3. LOX Trailer - - - - -	3
4. Alcohol Trailer - - - - -	4
5. H <sub>2</sub> O <sub>2</sub> Truck - - - - -	5
6. Air Compressor Truck - - - - -	6
7. Mobile Crane, 25 Ton - - - - -	7
8. Crane Component Trailer - - - - -	8
9. Truck, Tractor - - - - -	9
10. Fire Fighter Vehicle - - - - -	10
 B. Test and Control Equipment	
1. Program Device Test Equipment - - - - -	11
2. Guidance Test Equipment - - - - -	12
3. Voltage Detector - - - - -	13
4. Test Simulator Box - - - - -	14
5. Power Plant Panel - - - - -	15
6. Control Panel - - - - -	16
7. Overall Test Panel - - - - -	17
8. Explosive Screw Diaphragm Circuit Test Box - - - - -	18
9. Payload Test Equipment - - - - -	19
10. Firing Operation Box - - - - -	20
 C. Mechanical Equipment	
1. Launcher - - - - -	21
2. Air Supply Set - - - - -	22
3. Heater Equipment, 10 KW - - - - -	23
4. Ladder, Launcher - - - - -	24
5. Ladder, Burner - - - - -	25
6. Ladder, Reducer - - - - -	26
7. Platform, Launcher - - - - -	27
8. Platform, Inside - - - - -	28
9. Platform, Elevator - - - - -	29
10. Platform, Top - - - - -	30
11. Platform, Fueling - - - - -	31
12. Platform, Deflector - - - - -	32
13. LOX Vent Conduit - - - - -	33
14. Slip Coupling Arm - - - - -	34
15. Take Off Switch Support - - - - -	35
16. Igniter Alcohol Container - - - - -	36
17. Multiple Coupling Arm Assembly - - - - -	37
18. Valve Box - - - - -	38

D. Electrical Equipment	Page
1. Generator, 60 KW - - - - -	39
2. Motor Generator Set, 28V, DC, 265 Amp. - - - - -	40
3. AC Distribution Panel - - - - -	41
4. Voltage Reducer - - - - -	42
5. Public Address Equipment - - - - -	43
6. Booster Charger and Battery Tester - - - - -	44
7. Electrical Plug Arm Assembly - - - - -	45
8. Relay Box - - - - -	46
9. Set of Cabling (4 Drums) - - - - -	47
E. Maintenance Equipment	
1. Special Tools for REDSTONE Missile - - - - -	48
2. Hand Tools for Electricians - - - - -	49
Hand Tools for Mechanics - - - - -	49
High Pressure Fittings and Tubing - - - - -	49
F. Safety Equipment	
Safety Clothes - - - - -	50

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

## Vehicles

ITEM: Auxiliary Equipment Trailer

FUNCTION: To serve as transport carrier for launcher, air storage, generator,  
---. See Mechanical Equipment Section.DESCRIPTION: Vehicle Size and Type: Semitrailer, 12 Ton, XM269.  
Weight and Dimensions: Length - 409"; Width - 120"; Height - 130". Gross  
weight: Vehicle - 14,060 Lbs.; Equipment - 24,000 Lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: Vehicle - \$ 3,000  
Equipment - \$57,000

REMARKS:

HARDWARE NOT AVAILABLE


DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

1

G.M.D.D.	PART II GROUND EQUIPMENT	REDSTONE MISSILE
Vehicles		
ITEM: Fire Control and Test Truck		
FUNCTION: To house equipment and personnel for firing site, testing of the missile and to transport fire control equipment.		
DESCRIPTION: Vehicle Size and Type: 2½ Ton, 6x6, Van, Shop, M109. Equipped with special equipment for testing and firing procedures. Weight and Dimensions: Length - 261"; width - 96"; Height - 130". Gross weight: Vehicle - 15,085 Lbs.; Equipment - 750 Lbs.		
LOCATION: Firing Site		
MAINTENANCE PROCEDURES:		
ECHELON GROUP: <div style="border: 1px solid black; padding: 2px; display: inline-block;">1-2</div>		
SPEC. DEVICES: TOOLS:		
DRAWING NO.		
NOMENCL. NO.		
MANUFACT.		
COSTS:    Vehicle    - \$ 9,440 Equipment - \$10,000		
REMARKS:		
		
DATE: 14 Feb 55		PAGE: 2
SHEET 1 OF 1		



G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Vehicles

ITEM: LOX Trailer

FUNCTION: To deliver LOX to the firing site from the supply area and to tank LOX into the missile.

DESCRIPTION: Vehicle Size and Type: 9 Ton, semitrailer, special and truck tractor, 5 ton, 6x6, M52.  
Weight and Dimensions: Length - 276"; Width - 98"; Height - 126". Weight - Empty - 18,000 Lbs. Gross weight - 36,000 Lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: Vehicle - \$40,000

REMARKS:



DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

3

G.M.D.D.	PART II GROUND EQUIPMENT	REDSTONE MISSILE
	Vehicles	
ITEM: Alcohol Trailer		
FUNCTION: To transport the alcohol from storage or mixing area to the firing site.		
DESCRIPTION: Vehicle Size and Type: 3,000 Gal., semitrailer, special and truck tractor, 5 ton, 6x6, M52. Weight and Dimensions: Length - 324"; Width - 96"; Height - 90". Weight: Empty - 10,000 Lbs.; Gross weight - 31,000 Lbs.		
LOCATION: Firing Site		
MAINTENANCE PROCEDURES:		
ECHELON GROUP: <span style="border: 1px solid black; padding: 2px;">1-2</span>		
SPEC. DEVICES: TOOLS:		
DRAWING NO.		
NOMENCL. NO.		
MANUFACT.		
COSTS: Vehicle - \$12,000		
REMARKS:		



G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

## Vehicles

ITEM: H<sub>2</sub>O<sub>2</sub> Truck

FUNCTION: To transport hydrogen peroxide in barrels from supply point to firing site.

DESCRIPTION: Vehicle Size and Type: 3/4 ton, 4x4, Utility, M37.  
Weight and Dimensions: Length - 192"; Width - 78"; Height - 89". Gross weight: Empty - 6,300 Lbs.; Load of 2 drums - 1,650 Lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: Vehicle - \$3,750

REMARKS:




DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

5

G.M.D.D.	PART II GROUND EQUIPMENT		REDSTONE MISSILE
	Vehicles		
ITEM: Air Compressor Truck			
FUNCTION: To supply the necessary compressed air for firing site.			
DESCRIPTION: Vehicle Size and Type: 2 1/2 Ton, 6x6, Cargo, M35. Weight and Dimensions: Length - 266"; Width - 96"; Height - 130". Gross weight: Vehicle - 12,465 Lbs.; Equipment - Approx. 5,000 Lbs.			
LOCATION: Firing Site			
MAINTENANCE PROCEDURES:			
ECHELON GROUP: <span style="border: 1px solid black; padding: 2px;">1-2</span>			
SPEC. DEVICES: TOOLS:			
DRAWING NO.			
NOMENCL. NO.			
MANUFACT.			
COSTS: Vehicle - \$ 7,200 Equipment - \$15,000			
REMARKS:			
			
		SHEET 1 OF 1	

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Vehicles

ITEM: Mobile Crane, 25 Ton

FUNCTION: To lift missile components; to assemble missile components to a complete missile; to erect the missile from the horizontal to the vertical position in order to place it on the launcher.

DESCRIPTION: Vehicle Size and Type: 25 Ton crane-shovel, power unit, truck mounted, 2 engine drive, 6x6.  
Weight and Dimensions: Length - 317"; Width - 120"; Height - 135". Gross weight - 65,400 Lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: Vehicle - \$45,000

REMARKS:



DATE:

PAGE:

<b>G.M.D.D.</b>	<b>PART II GROUND EQUIPMENT</b>		<b>REDSTONE MISSILE</b>
	Vehicles		

<b>ITEM:</b>	<b>Crane Component Trailer</b>			
<b>FUNCTION:</b>	To carry the boom extensions, lifting beams, and special equipment for mobile crane, 25 ton.			
<b>DESCRIPTION:</b>	Vehicle Size and Type: Trailer platform, pole, 10 ton, 4W, M345. Weight and Dimensions: Length - 333"; width - 98"; Height - 55". Gross weight: 10,000 Lbs.; Equipment - 6,000 Lbs.			
<b>LOCATION:</b>	Firing Site			
<b>MAINTENANCE PROCEDURES:</b>				
<b>ECHELON GROUP:</b>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">1-2</div>			
<b>SPEC. DEVICES: TOOLS:</b>				
<b>DRAWING NO.</b>	HARDWARE NOT AVAILABLE			
<b>NOMENCL. NO.</b>				
<b>MANUFACT.</b>				
<b>COSTS:</b> Vehicle - \$3,000				
<b>REMARKS:</b>				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"><b>DATE:</b> 14 Feb 55</td> <td style="width: 30%;"><b>SHEET</b> 1 <b>OF</b> 1</td> <td style="width: 40%;"><b>PAGE:</b> 8</td> </tr> </table>		<b>DATE:</b> 14 Feb 55	<b>SHEET</b> 1 <b>OF</b> 1	<b>PAGE:</b> 8
<b>DATE:</b> 14 Feb 55	<b>SHEET</b> 1 <b>OF</b> 1	<b>PAGE:</b> 8		

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Vehicles

ITEM: Truck, Tractor

FUNCTION: To tow the alcohol trailer, the LOX trailer and the 12 Ton auxiliary trailer.

DESCRIPTION: Vehicle Size and Type: 5 Ton, 6x6, M52.  
Weight and Dimensions: Length - 273"; Width - 97"; Height - 86".  
Gross weight - 19,000 Lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: Vehicle - \$13,900

REMARKS:

DATE:

14 Feb 55

PAGE:

9

SHEET 1 OF 1



G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Vehicles

ITEM: Fire Fighter Vehicle

FUNCTION: To serve as a source of water supply in case of emergencies.

DESCRIPTION: Vehicle Size and Type: Truck, fire, pumper, Class 540, 1500 Gal.  
Weight and Dimensions: Length - 272"; Width - 93"; Height - 81". Gross  
weight: Vehicle - 12,000 Lbs.; Water - 12,000 Lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: Vehicle - \$11,000

REMARKS:

DATE:

14 Feb 55

SHEET 1 OF 1

PAGE: 10



G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Test and Control Equipment

ITEM: Program Device Test Equipment

FUNCTION: To control, test and record program device in the missile.

DESCRIPTION: Still in R&amp;D phase.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: To be transported in Fire  
Control and Test Truck

HARDWARE NOT AVAILABLE

DATE:  
14 Feb 55

SHEET 1 OF 1

PAGE:  
11

G.M.D.D.

## PART II GROUND EQUIPMENT

Test and Control Equipment

REDSTONE  
MISSILE

ITEM: Guidance Test Equipment

FUNCTION: To test guidance equipment, computers and actuators.

DESCRIPTION: Still in R&amp;D phase.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: To be transported in  
Fire Control and Test  
Truck

HARDWARE NOT AVAILABLE

DATE:  
14 Feb 55

SHEET 1 OF 1

PAGE:

12

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

## Test and Control Equipment

ITEM: Voltage Detector

FUNCTION: To indicate any random voltage which may appear across the detonator circuit due to switching in other circuits or due to induced voltages.

DESCRIPTION: Type: Redstone

Weight and Dimensions: Consists of a magnetic amplifier which works into a relay which operates a light, a warning horn and a pen of the sequence recorder. The test circuit detects positive or negative DC voltages as well as AC voltages as low as 0.25 volts and pulses as low as 0.5 volts and as short as 3.5 milliseconds.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

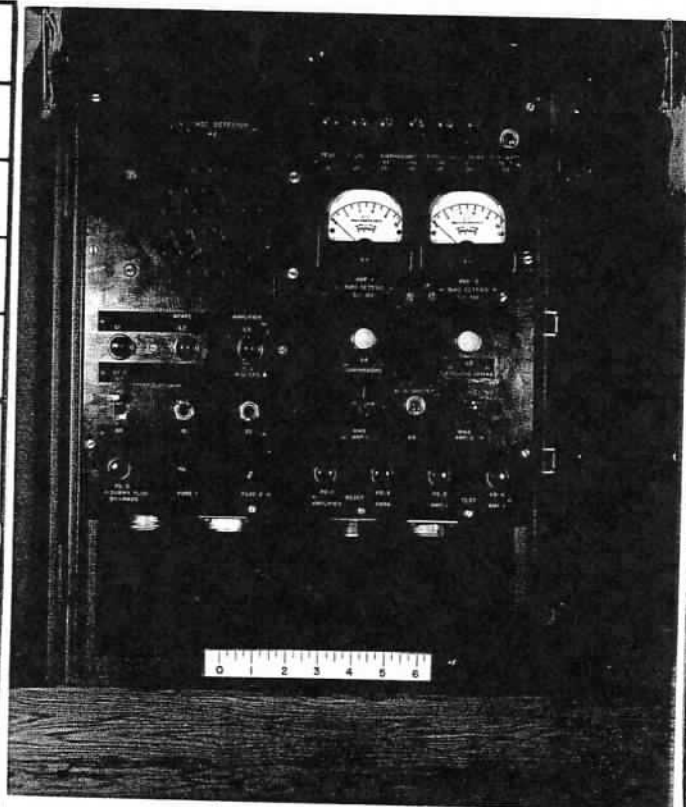
SPEC. DEVICES:  
TOOLS:

DRAWING NO. 10060

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: To be transported in  
Fire Control and Test  
Truck

14 Feb 55

SHEET 1 OF 1

13

G.M.D.D.	PART II GROUND EQUIPMENT	REDSTONE MISSILE
	Test and Control Equipment	

ITEM: Test Simulator Box

FUNCTION: To serve as simulator for following operations: take off, a sub-zero adjustment, cut-off command, mechanical and electrical separation command, Q switch, and speed contact of integrator.

DESCRIPTION: Type: Redstone

Weight and Dimensions: Contains switches for simulation of the different operations. Gives signals into the missile without starting the whole missile function.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:

ECHELON  
GROUP:

1-2

SPEC. DEVICES:

TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: To be transported in  
Fire Control and Test  
Truck

HARDWARE NOT AVAILABLE

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

14

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Test and Control Equipment

ITEM: Power Plant Panel

FUNCTION: To use for testing the proper function of power plant and also for launching the missile.

DESCRIPTION: Type: Redstone  
Weight and Dimensions: 15" x 15" x 28". It contains switches, instruments, and lamps, which control the operation of the engine.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

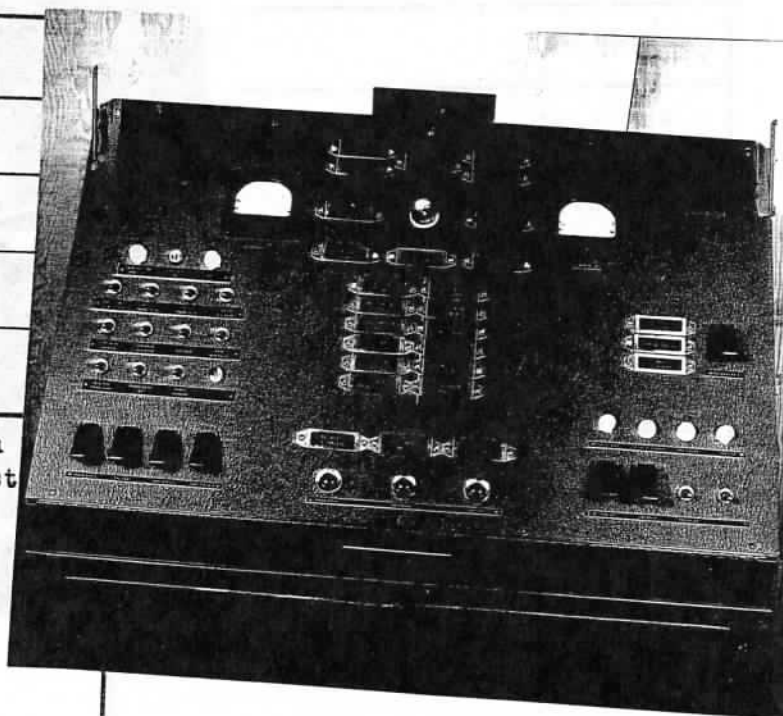
SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: To be transported in  
Fire Control and Test  
Truck

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

15

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Test and Control Equipment

ITEM: Control Panel

FUNCTION: For testing and supervision on the complete control system of the missile, stabilized platform, mixing computer and actuator operation.

DESCRIPTION: Type: Redstone.

Weight and Dimensions: 15" x 15" x 28". Contains switches, push button, instruments and lamps to control the stabilized platform, mixing computer, and actuators.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:

TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: To be transported to  
Fire Control and Test

DATE:  
14 Feb 55

SHEET 1 OF 1

PAGE:

16

ITEM: Overall Test Panel

FUNCTION: To serve as simulator for valve and pressure switch operations in the power plant of the missile for the overall tests.

DESCRIPTION: Type: Redstone.

Weight and Dimensions: 5 Lbs. 14" x 8" x 8". Contains alcohol pressure contact, LOX pressure contact, igniter link, H<sub>2</sub>O<sub>2</sub> main valve position, alcohol delivery pressure contact, turbine overspeed or combined pressure cutoff.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:

ECHELON  
GROUP:



SPEC. DEVICES:

TOOLS:

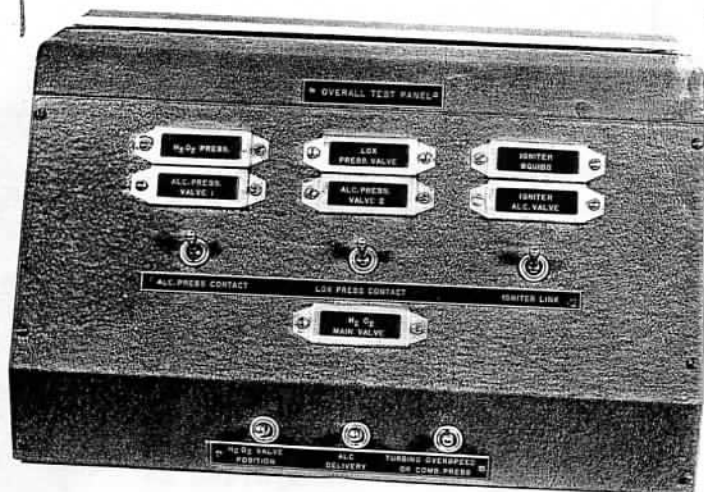
DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: To be transported in  
Fire Control and Test  
Truck



DATE:  
14 Feb 55

SHEET 1 OF 1

PAGE:

17



G.M.D.D.	PART II GROUND EQUIPMENT	REDSTONE MISSILE
	Test and Control Equipment	

ITEM: Explosive Screw Diaphragm Circuit Test Box

FUNCTION: To serve as substitute for detonator screws and diaphragms of detonator cylinders for checking voltage and proper isolation on the end of the related detonator circuit.

DESCRIPTION: Type: Redstone  
Contains 6 lamps as substitutes for the 6 detonator screws and 2 lamps as substitutes for 2 diaphragms of detonator cylinders; 7 lamps for proper indication, 1 push button for isolation check.

LOCATION: Firing Site.

MAINTENANCE  
PROCEDURES:

ECHOLON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

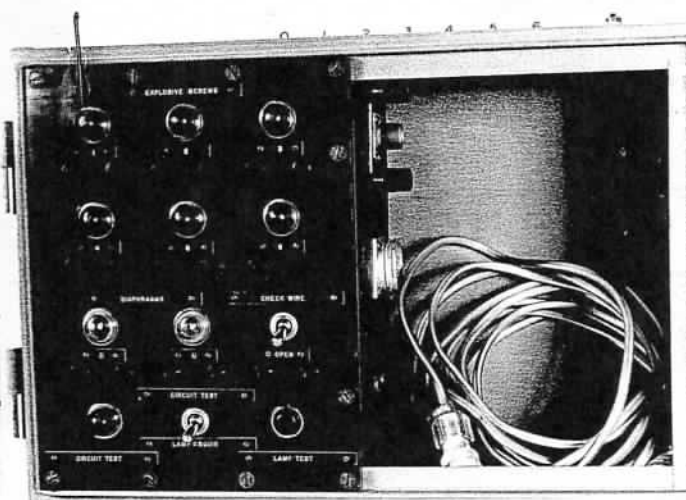
DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: To be transported in  
Fire Control and Test  
Truck



DATE:  
14 Feb 55

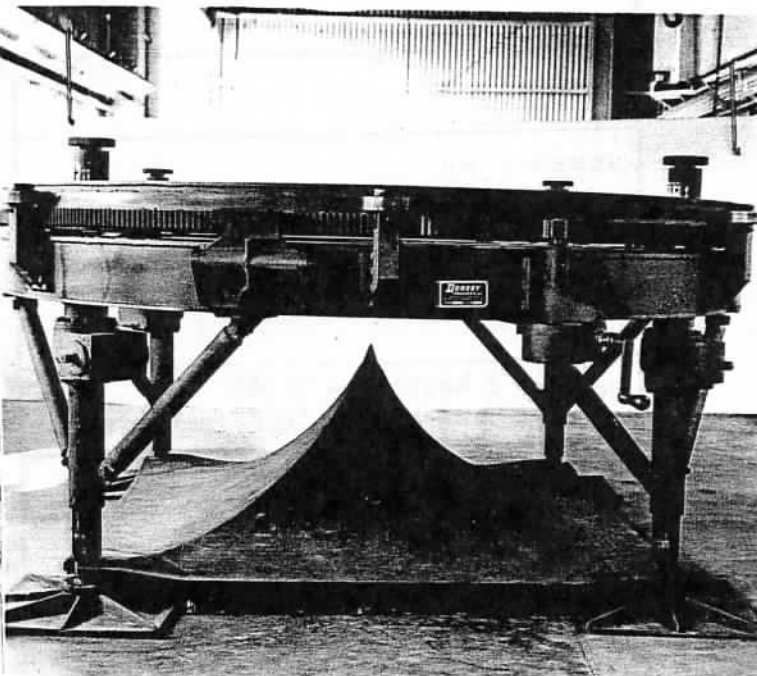
SHEET 1 OF 1

PAGE:  
18



G.M.D.D.	PART II GROUND EQUIPMENT		REDSTONE MISSILE
	Test and Control Equipment		
ITEM: Payload Test Equipment			
FUNCTION: To test electrical and electronic installation of payload.			
DESCRIPTION: Still in R&D phase			
LOCATION: Firing Site			
MAINTENANCE PROCEDURES:			
ECHELON GROUP: <span style="border: 1px solid black; padding: 2px;">1-2</span>			
SPEC. DEVICES: TOOLS:			
DRAWING NO.		HARDWARE NOT AVAILABLE	
NOMENCL. NO.			
MANUFACT.			
COSTS:			
REMARKS: To be transported in Fire Control and Test Truck		<div style="display: flex; justify-content: space-between;"> <div>DATE: 14 Feb 55</div> <div>SHEET 1 OF 1</div> <div>PAGE: 19</div> </div>	

G.M.D.D.	PART II GROUND EQUIPMENT		REDSTONE MISSILE
	Test and Control Equipment		
ITEM: Firing Operation Box			
FUNCTION: To operate the powerplant for firing the missile, last minute survey for guidance and control system, and, if necessary, to cut off firing operation from foxhole.			
DESCRIPTION: Type: Redstone. Size: 12" x 15" x 18". buttons, light and instrument panel, equipped with push			
LOCATION: Firing Site			
MAINTENANCE PROCEDURES:			
ECHELON GROUP: <span style="border: 1px solid black; padding: 2px;">1-2</span>			
SPEC. DEVICES: TOOLS:			
DRAWING NO.		HARDWARE NOT AVAILABLE	
NOMENCL. NO.			
MANUFACT.			
COSTS:			
REMARKS: Presently being developed			
DATE: 14 Feb 55		SHEET 1 OF 1	PAGE: 20

G.M.D.D.	<b>PART II GROUND EQUIPMENT</b>	<b>REDSTONE MISSILE</b>
	Mechanical Equipment	
ITEM: Launcher		
FUNCTION: To serve as a base for the vertical, erected missile for firing preparations, leveling, turning in azimuth, adjusting and testing the missile. To serve as a base for missile take off and as jet deflector during take off.		
DESCRIPTION: Type: Redstone Weight and Dimensions: Approx. 6,900 Lbs. Length - 12'6"; Width - 10'10"; Height - 6'0".		
LOCATION: Firing Site		
MAINTENANCE PROCEDURES:		
ECHELON GROUP: <div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">1-2</div>		
SPEC. DEVICES: TOOLS:		
DRAWING NO.		
NOMENCL. NO.		
MANUFACT. Dorsey Trailer Elba, Alabama		
COSTS: Launcher - \$14,000 Load Cells - \$ 5,000		
REMARKS: Transported on Auxiliary Equipment Trailer. Research is being conducted to find a method of towing the launcher as a trailer with the attachment of a special axle and wheels		
		
DATE: 14 Feb 55		PAGE: 21
SHEET 1 OF 1		

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Air Supply Set

FUNCTION: A supply of compressed air for filling of air system of the missile.

DESCRIPTION: Type: Redstone

Weight and Dimensions: 3 bottles mounted side by side on skids. Approx. length - 5½ Ft.; approx. width - 6 Ft.; approx. height - 2 Ft. Total weight - 3100 lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: 3 bottles - \$1950  
Gauges, Fittings, Valves - \$800  
Skids - \$75REMARKS: Bottles will supply air  
at pressure of 5000 PSITransported on Auxiliary  
Equipment Trailer.HARDWARE NOT  
AVAILABLE

DATE:

PAGE:

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Heater Equipment, 10 KW

FUNCTION: To supply hot air into tail section during and after fueling liquid oxygen to keep valves from freezing.

DESCRIPTION: Type: Redstone  
Weight and Dimensions: Weight - 300 lbs. Length - 4½'; Width - 2½'; Height - 3½'  
Explosion proof, 10 KW, 3 phase, 208 V, 60 cycles, CFM air volume capacity and 400 C rise above ambient. Electric thermostatically controlled. High and low range switch.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:

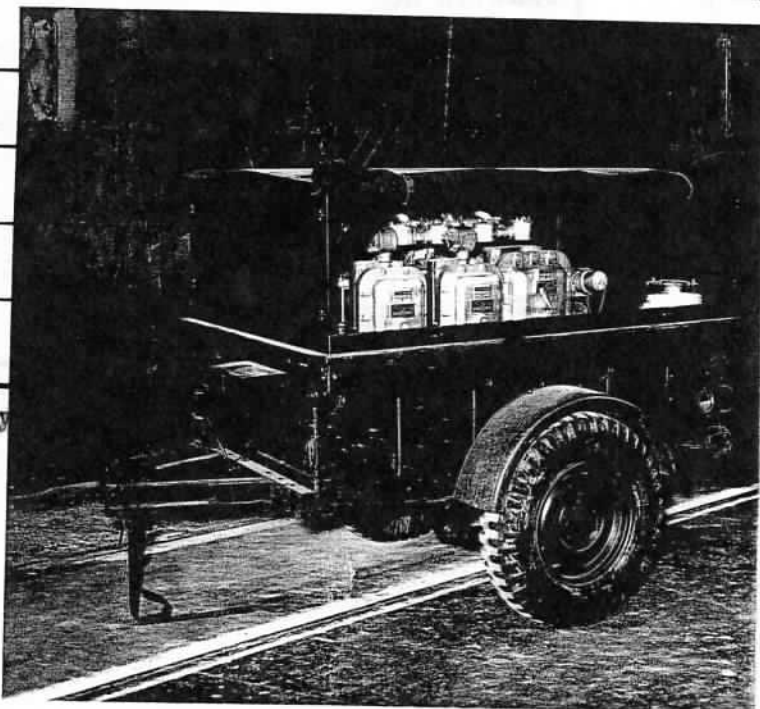
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: Total Cost - \$3,000

REMARKS: Transported on Auxiliary  
Equipment Trailer

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

23

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Ladder, Launcher

FUNCTION: For climbing on launcher for access to tail section.

DESCRIPTION: Type: Redstone  
Weight: 15 lbs

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

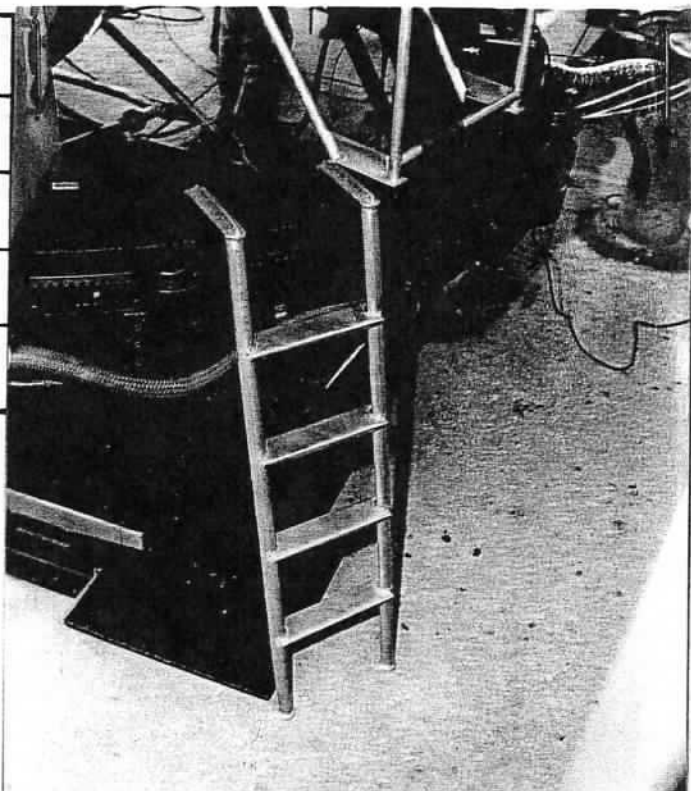
SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: \$100

REMARKS: Transported on Auxiliary  
Equipment TrailerDATE:  
14 Feb 55

SHEET 1 OF 1

PAGE:

24

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Ladder, Burner

FUNCTION: To permit easy access to the missile combustion chamber after missile has been erected on launcher.

DESCRIPTION: Type: Redstone

Weight and Description: 20 lbs. 6' x 4' The ladder is a 6 Ft section of a Redi Built aluminum scaffold. Fastened to the deflector pyramid by means of a cloth webbing belt.

LOCATION: Firing site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:

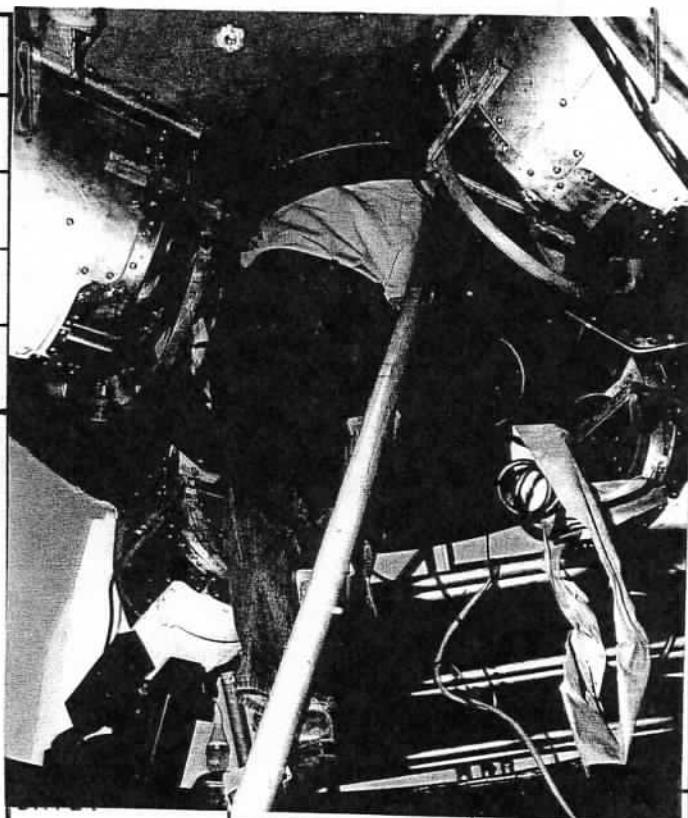
TOOLS:

DRAWING NO. GM 340623, Rev. "A"

NOMENCL. NO.

MANUFACT.

COSTS: \$70

REMARKS: Transported on Auxiliary  
Equipment Trailer

14 Feb 55

SHEET 1 OF 1

25



G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Ladder, Reducer

FUNCTION: To make final setting of steam plant reducer.

DESCRIPTION: Type: Redstone  
Weight: 80 Lbs.

LOCATION: Firing site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

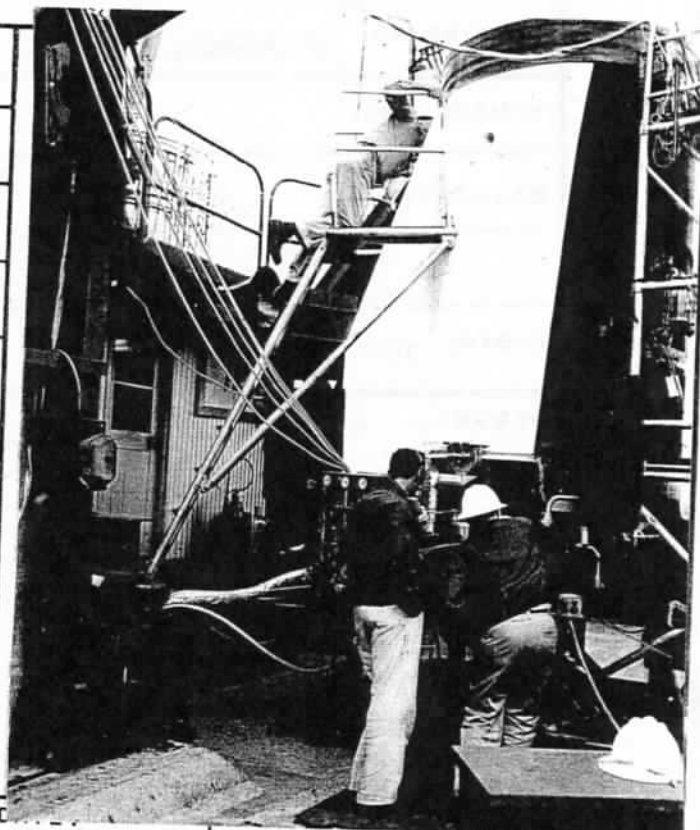
SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: \$320

REMARKS: Transported on Auxiliary  
Equipment Trailer

14 Feb 55

SHEET 1 OF 1

PAGE:

26



G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Platform, Launcher

FUNCTION: For access to manhole in tail section.

DESCRIPTION: Type: Redstone  
Weight: 10 Lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

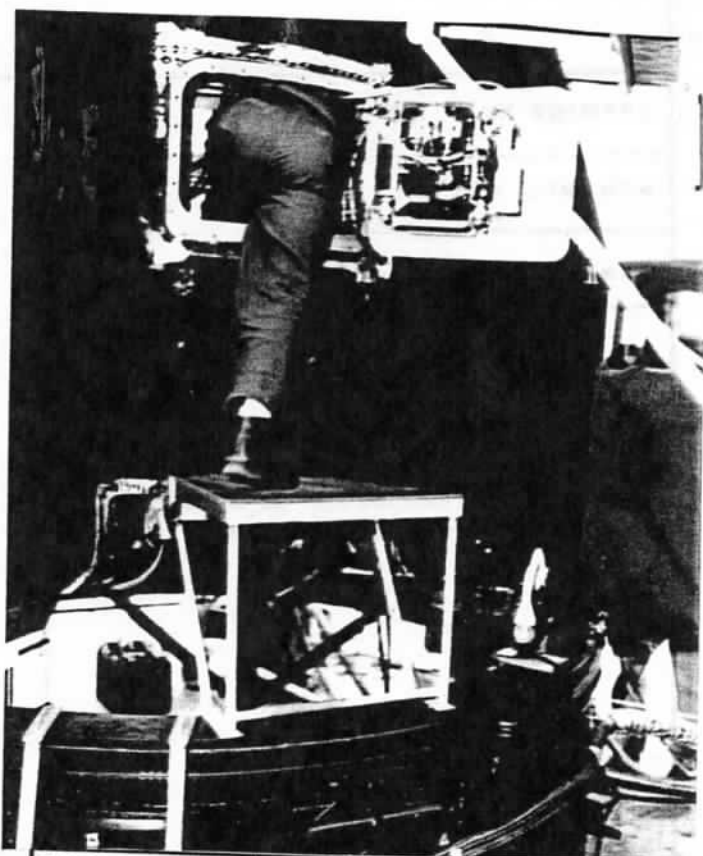
SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: \$120

REMARKS: Transported on Auxiliary  
Equipment TrailerDATE:  
14 Feb 55

SHEET 1 OF 1

PAGE:

27

<b>G.M.D.D.</b>	<b>PART II GROUND EQUIPMENT</b>		<b>REDSTONE MISSILE</b>							
	Mechanical Equipment									
ITEM: Platform, Inside										
FUNCTION: The platform is used to stand on while making final adjustments inside tail section.										
DESCRIPTION: Type: Redstone Weight and Dimensions: Weight - 5 Lbs. 30" x 30" x 24". The platform is used on top ring of the launcher. Minimum tubing with plywood working surface.										
LOCATION: Firing Site										
MAINTENANCE PROCEDURES:										
ECHELON GROUP: <span style="border: 1px solid black; padding: 2px 10px;">1-2</span>										
SPEC. DEVICES: TOOLS:										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">DRAWING NO. <b>GM 442948</b></td> <td rowspan="6" style="width: 60%;"></td> </tr> <tr> <td>NOMENCL. NO.</td> </tr> <tr> <td>MANUFACT.</td> </tr> <tr> <td> </td> </tr> <tr> <td>COSTS: \$80</td> </tr> <tr> <td>REMARKS: Transported on Auxiliary Equipment Trailer</td> </tr> </table>				DRAWING NO. <b>GM 442948</b>		NOMENCL. NO.	MANUFACT.		COSTS: \$80	REMARKS: Transported on Auxiliary Equipment Trailer
DRAWING NO. <b>GM 442948</b>										
NOMENCL. NO.										
MANUFACT.										
COSTS: \$80										
REMARKS: Transported on Auxiliary Equipment Trailer										
DATE: 14 Feb 55		SHEET 1 OF 1	PAGE: 28							

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Platform, Elevator

FUNCTION: To elevate personnel and equipment from ground to top platform.

DESCRIPTION: Type: Redstone  
Weight: 100 Lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:

TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: \$300

REMARKS: Transported in Auxiliary  
Equipment Trailer

HARDWARE NOT AVAILABLE

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

29

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Platform, Top

FUNCTION: For access to top section.

DESCRIPTION: Type: Redstone  
Weight: 500 Lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: \$1400

REMARKS: Transported on Auxiliary  
Equipment Trailer

HARDWARE NOT AVAILABLE

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

30

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

## Mechanical Equipment

ITEM: Platform, Fueling

FUNCTION: To provide a working platform 11 Ft. high for fueling and installation of servo batteries.

DESCRIPTION: Type: Redstone.

Weight and Dimensions: 150 Lbs. 4' x 14' x 3'. Platform is mounted on 2 pivoting arms. Can be raised from 3' to 11' position over the ground by means of a hydraulic cylinder.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:

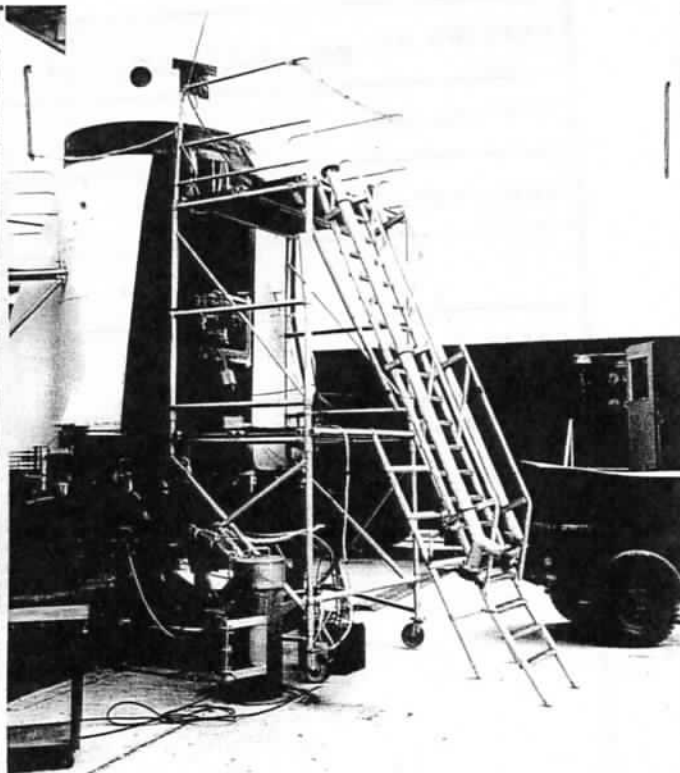
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: \$440

REMARKS: Transported on Auxiliary  
Equipment Trailer

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

31

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Platform, Deflector

FUNCTION: To provide a level base to stand on while working on connections and performing other operations after the missile has been erected on the launcher.

DESCRIPTION: Type: Redstone  
Weight and Dimensions: 50 lbs. 84" x 84" x 4". Platform rests on the deflector. It is square, made into halves for installation and removal.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

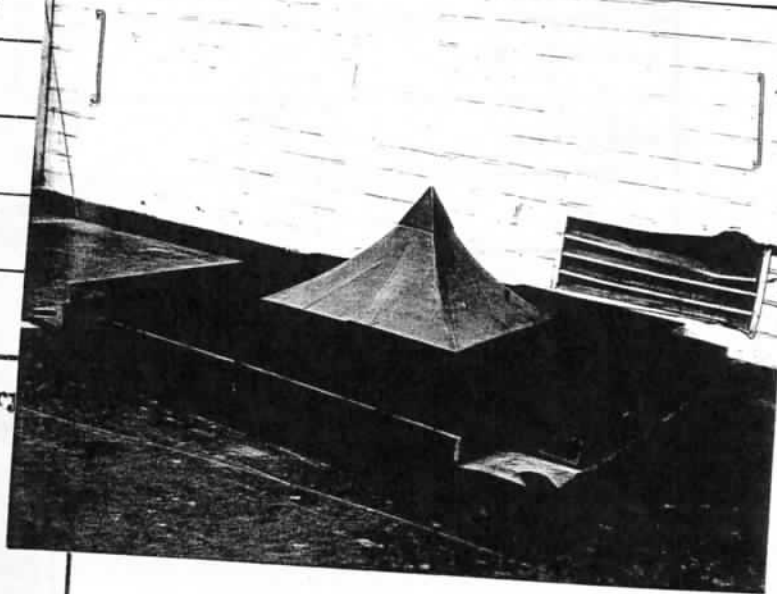
SPEC. DEVICES:  
TOOLS:

DRAWING NO. GM 442416, Rev. "A"

NOMENCL. NO.

MANUFACT.

COSTS: \$420

REMARKS: Transported on Auxiliary  
Equipment Trailer

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

32

G.M.D.D.

## PART II GROUND EQUIPMENT

Mechanical Equipment

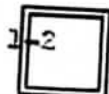
REDSTONE  
MISSILE

ITEM: LOX Vent Conduit

FUNCTION: Used for carrying LOX vapor away from missile while fueling.

DESCRIPTION: Type: Redstone  
Weight and Dimensions: weight - 20 lbs.  $4\frac{1}{8}$ " O.D. x 15' long.  
Vent pipe  $4\frac{1}{8}$ " aluminum tubing.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:SPEC. DEVICES:  
TOOLS:

DRAWING NO. GM 442001

NOMENCL. NO.

MANUFACT.

COSTS \$250

REMARKS: Transported on Auxiliary  
Equipment TrailerDATE:  
14 Feb 55

SHEET 1 OF 1

PAGE:

33



G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Slip Coupling Arm

FUNCTION: Used to support LOX topping line. Necessary for topping and draining shortly before firing.

DESCRIPTION: Type: Redstone

Weight and Dimensions: Weight - 30 lbs. 33" x 15" x 10". Is mounted to the top ring of the launcher by a bracket.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:

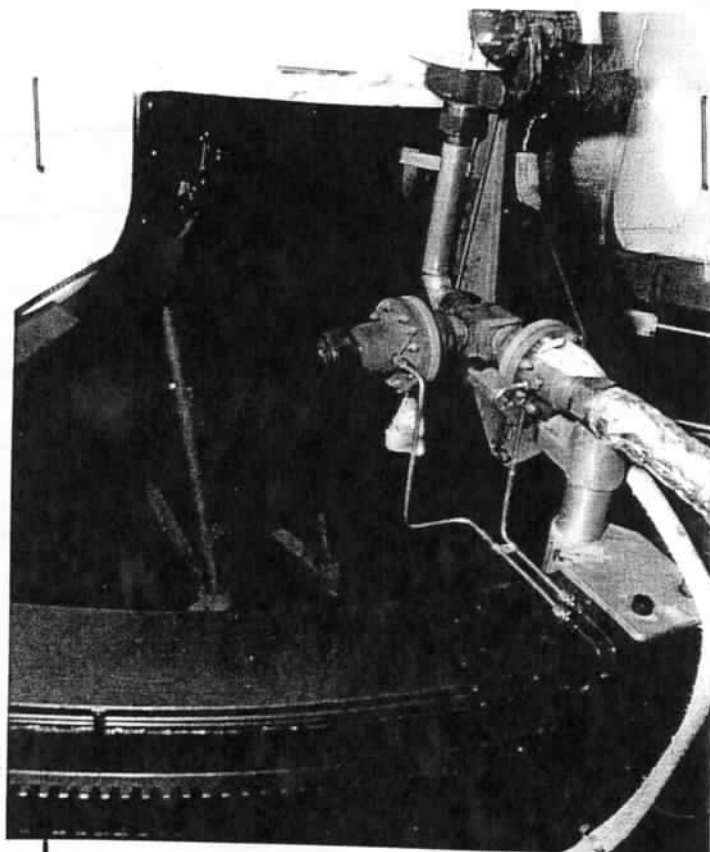
TOOLS:

DRAWING NO. GM 541461  
GM 442428

NOMENCL. NO.

MANUFACT.

COSTS: \$210

REMARKS: Transported on Auxiliary  
Equipment Trailer

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

24

G.M.D.D.

GROUND EQUIPMENT

REDSTONE  
MISSILE

Mechanical Equipment

ITEM: Igniter Alcohol Container

FUNCTION: To serve in the ignition stage of the power plant as supply container for alcohol.

DESCRIPTION: Type: Redstone  
Weight and Dimensions: 60 lbs. Length - 20"; Width - 6"; mounted by a bracket on the inside surface of the top ring of the launcher.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

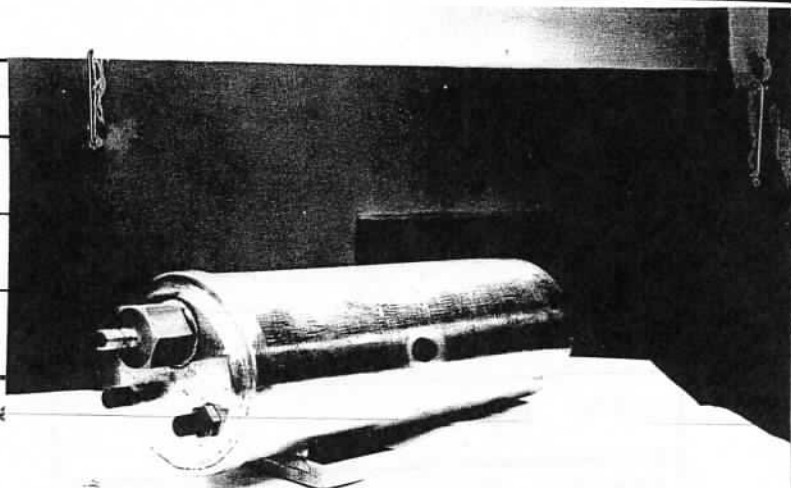
SPEC. DEVICES:  
TOOLS:

DRAWING NO. GM 443441

NOMENCL. NO.

MANUFACT.

COSTS: \$330

REMARKS: Transported on Auxiliary  
Equipment Trailer

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

36

G.M.D.D.

## PART II GROUND EQUIPMENT

Mechanical Equipment

REDSTONE  
MISSILE

ITEM: Multiple Coupling Arm Assembly

FUNCTION: To serve as pneumatic connection to the missile.

DESCRIPTION: Type: Redstone  
Weight and Dimensions: 30 lbs. 30" x 20" x 8". Is mounted to the launcher  
top ring through a bracket assembly. Can be adjusted.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

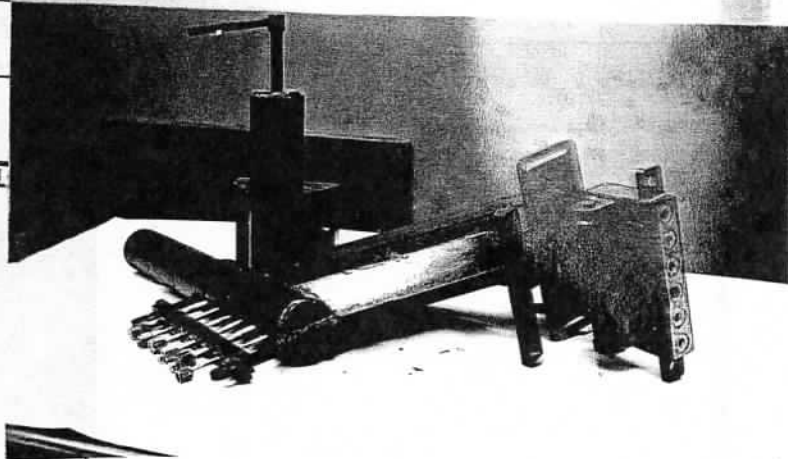
GM 541784  
GM 443428

NOMENCL. NO.

MANUFACT.

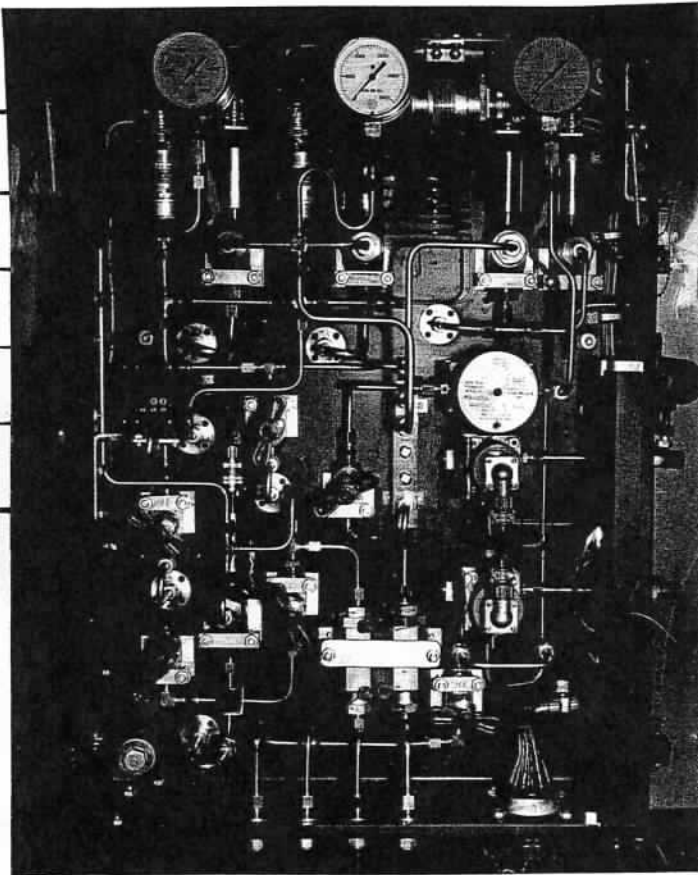
COSTS: \$700

REMARKS:

Transported on Auxil  
Equipment TrailerDATE:  
14 Feb 55

SHEET 1 OF 1

PAGE:  
37

G.M.D.D.	<b>PART II GROUND EQUIPMENT</b>	<b>REDSTONE MISSILE</b>
	Mechanical Equipment	
ITEM: Valve Box		
FUNCTION: To be used for pressurizing missile air system.		
DESCRIPTION: Type: Redstone Weight and Dimensions: 75 Lbs. Approx. 8" x 19" x 30". The valve box is mounted on 2 arm assemblies, bolted to the top ring of launcher. The valve box contains an air system and LOX pressure sensing system.		
LOCATION: Firing Site		
MAINTENANCE PROCEDURES:		
ECHELON GROUP: <span style="border: 1px solid black; padding: 2px 10px; display: inline-block;">1-2</span>		
SPEC. DEVICES: TOOLS:		
<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;">           DRAWING NO.    GM 442819                              GM 340533         </div> <div style="width: 55%; text-align: center;">  </div> </div>		
NOMENCL. NO.		
MANUFACT.		
COSTS: \$5,000		
REMARKS: Transported on Auxiliary Equipment Trailer		
DATE: 14 Feb 55		PAGE: 38 SHEET 1 OF 1

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

## Electrical Equipment

ITEM: Generator, 60 KW

FUNCTION: Supplies 60 cycles, 208 volts, 3 phase, 4 wire electric power for all firing site equipment.

DESCRIPTION: Type:  
Weight and Dimensions: 6,000 Lbs. Length - 196"; Width - 96"; Height - 63".  
Diesel driven, 60 KW generator set. Self regulated.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

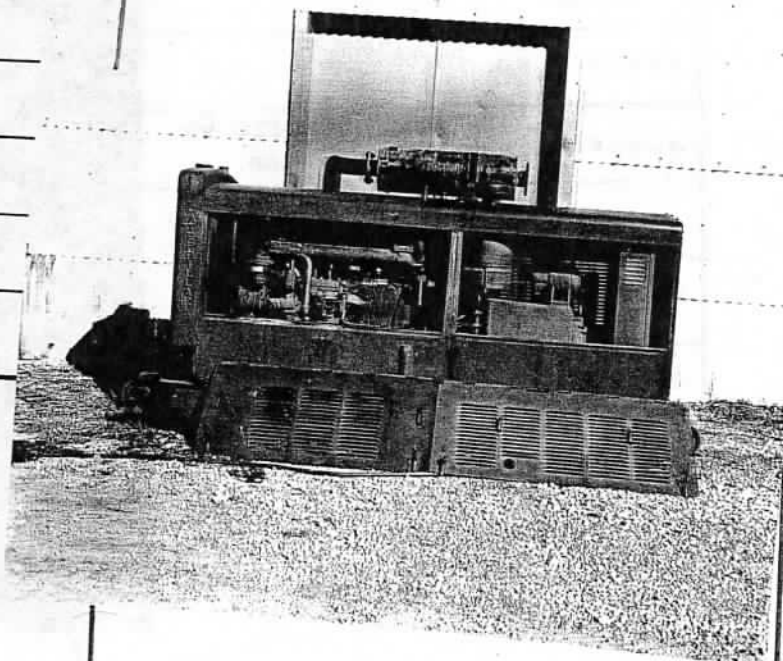
SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

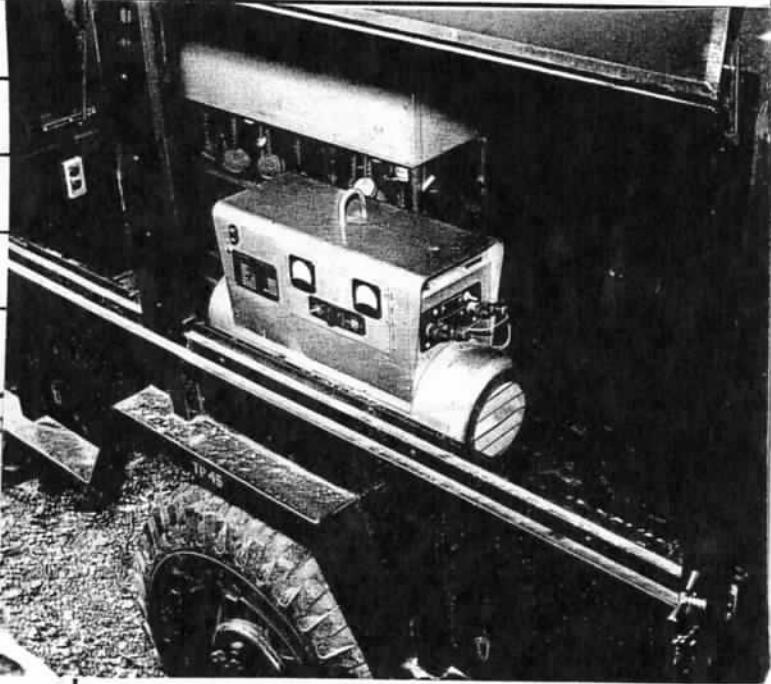
COSTS: \$6,500

REMARKS: To be transported on  
Auxiliary Equipment  
TrailerDATE:  
14 Feb 55

SHEET 1 OF 1

PAGE:

20

G.M.D.D.	PART II GROUND EQUIPMENT		REDSTONE MISSILE
	Electrical Equipment		
ITEM: Motor Generator Set, 28V, 265 Amp			
FUNCTION: To serve as an electrical power supply for the entire ground equipment. One is used for general network supply and overall test. One is used for ground power supply.			
DESCRIPTION: Type: General Electric 5 BY, 203A. Aircraft energizer. Portable generator. Weight and Dimensions: 365 Lbs. 24" x 33" x 140". Split pole design. Regulated output from 14 to 35 Volts, DC.			
LOCATION: Firing Site			
MAINTENANCE: Inside and outside set and control cabinet has to be kept clean. PROCEDURES: A systematic inspection is to be made at regular intervals or every 30 days.			
ECHELON GROUP: <span style="border: 1px solid black; padding: 2px;">1-2</span> See Maintenance Instruction Nr. GEI-32976-A. See Special Field Maintenance Instruction Nr.			
SPEC. DEVICES: 1 - 50 V, DC Voltmeter TOOLS: 1 - Set Tools for Electrical Mechanics Renewal Parts List: Brush, Main, 1334485, P-1. 4 pieces Brush, Excitation, 4813379 G-1. 2 pieces Ammeter, 9491205 P-2. 1 each Voltmeter, 9491249. 1 each			
DRAWING NO. K-8959980			
NOMENCL. NO.			
MANUFACT. General Electric Co. Fitchburg, Mass.			
COSTS: \$800			
REMARKS: Transported on Auxiliary Equipment Trailer			
DATE: 14 Feb 55		PAGE: 40 SHEET 1 OF 1	



G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Electrical Equipment

ITEM: AC Distribution Panel

FUNCTION:

DESCRIPTION:

Weight: 75 lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: \$600

REMARKS:

HARDWARE NOT AVAILABLE

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

41



G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Electrical Equipment

ITEM: AC Distribution Panel

FUNCTION:

DESCRIPTION:

Weight: 75 lbs.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: \$600

REMARKS:

HARDWARE NOT AVAILABLE

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

41

<b>G.M.D.D.</b>	<b>PART II GROUND EQUIPMENT</b>	<b>REDSTONE MISSILE</b>
<b>Electrical Equipment</b>		
<b>ITEM: Voltage Reducer</b>		
<b>FUNCTION: To supply a constant voltage to relays.</b>		
<b>DESCRIPTION:</b> Type: Redstone <b>Weight and Dimensions:</b> Contains a motor generator set, DC - DC, output is 28V, DC. General Electric. 80 Lbs.		
<b>LOCATION: Firing Site</b>		
<b>MAINTENANCE PROCEDURES:</b>		
<b>ECHELON GROUP:</b> <div style="border: 1px solid black; display: inline-block; padding: 2px 10px; margin-left: 10px;">1-2</div>		
<b>SPEC. DEVICES:</b>		
<b>TOOLS:</b>		
<b>DRAWING NO.</b>	<b>HARDWARE NOT AVAILABLE</b>	
<b>NOMENCL. NO.</b>		
<b>MANUFACT.</b>		
<b>COSTS: \$100</b>		
<b>REMARKS:</b> To be transported on Auxiliary Equipment Trailer		<div style="display: flex; justify-content: space-between;"> <div> <b>DATE:</b> 14 Feb 55         </div> <div> <b>SHEET 1 OF 1</b> </div> <div> <b>PAGE:</b> 42         </div> </div>

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

## Electrical Equipment

ITEM: Public Address Equipment

FUNCTION: To serve as voice communication.

DESCRIPTION: Light weight, all weather. Weight and Dimensions: Approx. 100 Lbs. A dual system consisting of a public address for general announcing or paging and four, 24 volt common battery hot loop telephone circuits.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: To be transported on  
Auxiliary Equipment  
Trailer



DATE:

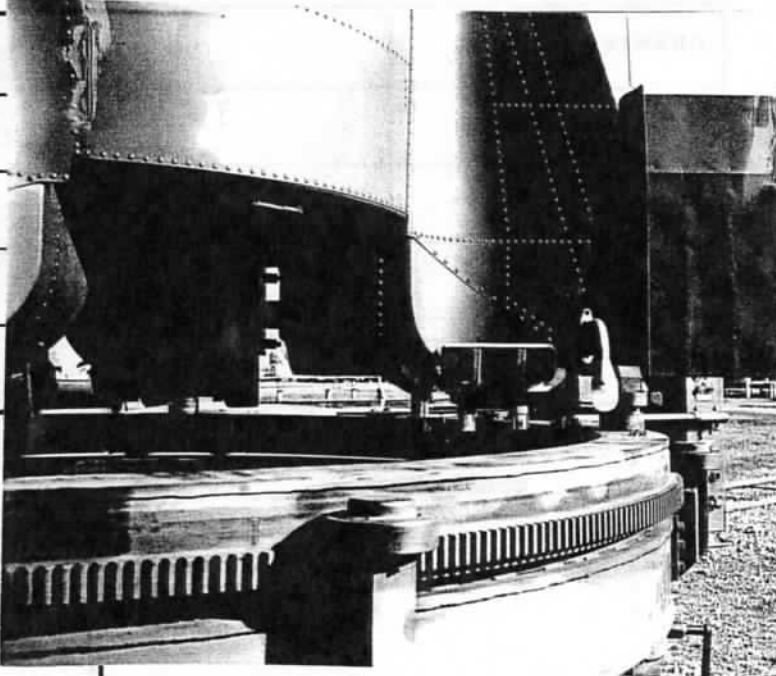
14 Feb 55

PAGE:

SHEET 1 OF 1

43

G.M.D.D.	PART II GROUND EQUIPMENT		REDSTONE MISSILE
	Electrical Equipment		
ITEM: <b>Booster Charger and Battery Tester</b>			
FUNCTION: <b>To charge and test the batteries in the firing site.</b>			
DESCRIPTION:			
LOCATION: <b>Firing Site</b>			
MAINTENANCE PROCEDURES:			
ECHELON GROUP: <span style="border: 1px solid black; padding: 2px;">1-2</span>			
SPEC. DEVICES: TOOLS:			
DRAWING NO.			
NOMENCL. NO.			
MANUFACT.			
COSTS:			
REMARKS: <b>To be transported in Fire Control and Test Truck</b>			
DATE: <b>14 Feb 55</b>		PAGE: <div style="display: flex; justify-content: space-between;"> <span>SHEET 1 OF 1</span> <span>44</span> </div>	

G.M.D.D.	PART II GROUND EQUIPMENT	REDSTONE MISSILE
	Electrical Equipment	
ITEM: Electrical Plug Arm Assembly		
FUNCTION: To contain the conductors that supply current to the missile from the ground for power, operational and monitoring signals.		
DESCRIPTION: Type: Redstone Weight and Dimensions: 40 Lbs. 13" x 20" x 3". Consists of 2 separate arms. Mounted to the top ring of launcher through a bracket assembly. Arms can be adjusted to take care of any misalignment between missile and ground plugs.		
LOCATION: Firing Site		
MAINTENANCE PROCEDURES:		
ECHELON GROUP: <span style="border: 1px solid black; padding: 2px;">1-2</span>		
SPEC. DEVICES: TOOLS:		
DRAWING NO. GM 541498		
NOMENCL. NO.		
MANUFACT.		
COSTS: \$220		
REMARKS:		
		
DATE: 14 Feb 55	SHEET 1 OF 1	PAGE: 45

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Electrical Equipment

ITEM: Relay Box

FUNCTION: Contains all relays for remote control for testing and launching sequence of the missile.

DESCRIPTION: Type: Redstone  
Weight and Dimensions: 130 Lbs. 42" x 13" x 23". Mounted on top ring of the launcher. Acts as a junction between control panels and missile.

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:ECHELON  
GROUP:

1-2

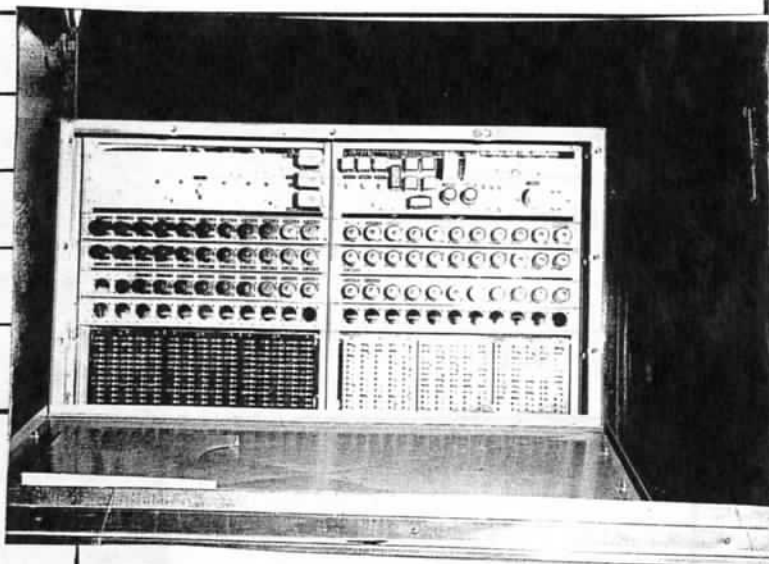
SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS: \$1,500


REMARKS: To be transported on  
Auxiliary Equipment  
TrailerDATE:  
14 Feb 55

SHEET 1 OF 1

PAGE:  
46

<b>G.M.D.D.</b>	<b>PART II GROUND EQUIPMENT</b> Electrical Equipment	<b>REDSTONE MISSILE</b>
<b>ITEM:</b> Set of Cabling (4 Drums)		
<b>FUNCTION:</b>		
<b>DESCRIPTION:</b>  <b>Weight:</b> 600 Lbs.		
<b>LOCATION:</b> Firing Site		
<b>MAINTENANCE PROCEDURES:</b>		
<b>ECHELON GROUP:</b> <div style="display: inline-block; border: 1px solid black; padding: 2px 5px; margin-left: 10px;">1-2</div>		
<b>SPEC. DEVICES:</b>  <b>TOOLS:</b>		
<b>DRAWING NO.</b>	<div style="border: 1px solid black; height: 200px; width: 100%;"></div>	
<b>NOMENCL. NO.</b>		
<b>MANUFACT.</b>		
<b>COSTS:</b> \$800		
<b>REMARKS:</b> To be transported on Auxiliary Equipment Trailer		
<b>DATE:</b> 14 Feb 55		<b>PAGE:</b> 47
<b>SHEET 1 OF 1</b>		



G.M.D.D.	PART II GROUND EQUIPMENT		REDSTONE MISSILE
	Maintenance Equipment		
ITEM: Special Tools for REDSTONE Missile			
FUNCTION: Required tools for maintenance of REDSTONE Missile.			
DESCRIPTION:  Presently being developed.			
LOCATION: Firing Site			
MAINTENANCE PROCEDURES:			
ECHELON GROUP: 			
SPEC. DEVICES: TOOLS:			
DRAWING NO.		HARDWARE NOT AVAILABLE	
NOMENCL. NO.			
MANUFACT.			
COSTS:			
REMARKS: To be transported on Auxiliary Equipment Trailer		<div>DATE: 14 Feb 55</div> <div>PAGE: 48</div> <div>SHEET 1 OF 1</div>	

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

Maintenance Equipment

ITEM: Hand Tools for Electricians, Hand Tools for Mechanics, High Pressure Fittings and Tubing, Gas Welding Equipment and Standard Machines

## FUNCTION:

Required for user to perform operational maintenance.

## DESCRIPTION:

Standard tool sets from SNL-J ORD 7

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:

ECHOLON  
GROUP:

SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: To be transported on  
Auxiliary Equipment  
Trailer

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

49

G.M.D.D.

## PART II GROUND EQUIPMENT

REDSTONE  
MISSILE

## Safety Equipment

ITEM: Safety Clothes; Goggles and Face Shields; Asbestos Gloves, Impermeable;  
Flame Proofed White Coveralls; Natural Rubber Gloves

## FUNCTION:

To give safety protection to propellant handlers.

## DESCRIPTION:

LOCATION: Firing Site

MAINTENANCE  
PROCEDURES:

ECHOLON  
GROUP:



SPEC. DEVICES:  
TOOLS:

DRAWING NO.

NOMENCL. NO.

MANUFACT.

COSTS:

REMARKS: Quartermaster Items

DATE:

14 Feb 55

PAGE:

SHEET 1 OF 1

50